

# In a nutshell: Horner's rule

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Given the coefficients of a polynomial of degree  $n$   $a_0, \dots, a_n$  where  $a_k$  is the coefficient of the term  $x^k$ , and given a point  $x$  to evaluate that polynomial at, proceed as follows:

1. Let  $s \leftarrow a_n$  and  $k \leftarrow n-1$ .
2. If  $k \geq 0$ ,
  - a. Let  $s \leftarrow sx + a_k$ .
  - b. Decrement  $k$  and return to Step 2.
3. Return  $s$ .